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USEPA ARCS III
Palmerton - Cinder Bank

B&V Project: 40410.514
May 15, 1989

Ms. Patricia Tan
United States Environmental
Protection Agency - Region III
841 Chestnut Building (6th Floor)
Philadelphia, PA 19107

Dear Pat:

I have enclosed for your information and files a copy of a May 10, 1989 memorandum from Dan McKenzie describing Black & Veatch's investigation of the Cinder Bank. This investigation was performed to estimate the extent of the waste pile fires under the Cinder Bank phase of U.S. Environmental Protection Agency (USEPA) work assignment #91-03-3N26 contract #68-W8-0091.

I have sent copies of this memorandum to Reno Ducceschi and Jim Adair of the Pennsylvania Department of Environmental Resources (PADER) for their information. If you have any questions, please do not hesitate to call me.

Very truly yours,

BLACK & VEATCH, INC.

Joseph B. Gormley, Jr.,P.E.
Site Manager

JBG
Enclosure
cc: Reno Ducceschi (PADER)
Jim Adair (PADER)

AR302569

Black & Veatch

MEMORANDUM

Environmental Protection Agency
Palmerton Cinder Bank
Description of Cinder Bank
Investigation

B&V Project 04230.110

May 10, 1989

To: Joe Gormley

From: Dan McKenzie DGM III SAW

SITE INVESTIGATION

The Cinder Bank examination began at 9 A.M. on May 2, 1989. Steve Witthar and I began our examination by driving the length of the pile on the highway which runs through Palmerton and Aquashicola, paralleling Aquashicola Creek. Rain had fallen the previous night, and we felt that it would be a good time to locate fire vents. The vents are more visible during and immediately after a rain, probably due to the effects of elevated relative humidity. We saw numerous vents located on the central and eastern portions of the pile. We photographed these areas from the road.

At 10 A.M. the same day, we attended a meeting with the PRP, B&V Philadelphia personnel, and several Bureau of Mines employees. The USBM people were there to see the pile and take water samples. A list of the meeting attendees is attached. Following the meeting, the group was given a cursory tour of the cinder bank. Once the tour was concluded, we made plans with the PRP's representative, John Griffin, to begin our detailed inspection the next morning. We concluded the first day by driving up on Stony Ridge. This ridge overlooks the cinder bank from the north side of the valley . We photographed the pile from this vantage point.

John Griffin, of Horsehead Resource Development Co., Steve Witthar, and I began the detailed inspection of the pile at 8 A.M. on May 3. Starting at the west end, we walked along the toe and crest of each slope, and made multiple passes over the flat areas to search for indications of past or current fires. We were able to cover most of the western half of the pile the first day since the pile in this area is very regular and has not been disturbed by mining of the Cinder Bank material. We did not see any signs of current or previous fire activity on the first day's inspection.

On May 4, we finished the western half and began examining the central portion. This area has numerous fire vents visible. We were not allowed to examine a portion of the pile since the PRP felt that it was too dangerous to enter since that area had a past history of sudden subsidence and gas outbursts. This area had several visible vents, and so was mapped as an active fire area. We did not feel that, by missing this area, we were compromising the completeness of the investigation.

The investigation proceeded much more slowly in the central and eastern areas since these areas are larger and much more complex and dangerous. This is due in large measure to the mining operations which have left areas of near vertical cliffs and overhangs. The faces of these cliffs contain numerous cracks, and very large pieces appear to be ready to fall if disturbed. The presence of the fires, vents, cracks, and subsidence areas also requires more caution.

We concluded our investigation on the morning of May 5. Rain fell steadily throughout the morning, giving us another opportunity to identify fire vent areas. We spotted several vents which had not been evident during previous days. As on the first day, we drove up onto Stony Ridge to observe the pile during the wet conditions.

We noted the following on our field maps:

- Fire Vents
- Major Cracks
- Subsidence Areas
- Trash Areas
- The approximate limits of the pile
- Areas which appeared to have burned in the past, but do not currently appear to be burning

On two occasions during our investigation, we used a Draeger hand pump and indicator tubes to test for the presence of Sulfur Dioxide in the smoke coming from fire vents. Both tests were negative.

Upon our return to the Philadelphia office, we marked up four sets of site maps with our findings. Refer to these maps for the locations of the features listed above.

OTHER OBSERVATIONS

In addition to searching for signs of fire, we examined the pile for indications of potential problems that may be encountered in any possible future grading or excavation operations. The following observations were made:

- The material is extremely abrasive. This condition does not preclude working the pile, but does merit consideration in any earthwork cost estimating exercise.

- The pile contains numerous areas where the material is conglomerated into a fairly hard mass. Most of the hard areas observed could be handled by a large ripper-equipped dozer. A few more massive blocks may require a backhoe-mounted pavement breaker.

- A great deal of "industrial trash" is evident in parts of the pile. Most of this material consists of old railroad rails, ties, old tires, bag house frames and filters. Municipal garbage is also present in several areas of the pile.

- In spite of being coarse grained, the Cinder Bank material apparently creates major amounts of dust when worked with heavy equipment. This was evident in photographs, shown to us by the PRP representative, of a previous effort in which part of the eastern end of the pile was regraded. Griffin told us that the contractor had used water as a dust control agent, but the photos showed an extremely dusty operation. There appeared to be more dust than would be expected from a mining or reclamation operation of similar size.

SUMMARY

The Cinder Bank shows evidence of active fire from approximately E 7,400 to about E 10,800 (refer to the maps described above). The evidence is fairly continuous throughout this interval. In addition, good evidence exists that the pile was once burning in the area from E 6,600 to E 7,400. This evidence includes the presence of red material resembling "red dog", or

partially burnt coal. (Red dog is found in burnt coal outcrops.) Also, melted debris was found in this area, and the PRP's representative indicated that fires have existed there in the past. Another area, between E 11,500 and E 11,700, also has the appearance of having been burned. The PRP's representative was unaware of any previous fires in this area.

It is our opinion that the area from E 6,600 to E 11,700 in the Cinder Bank should be assumed to contain fires. Any excavations in this area could encounter burning materials, gasses, or voids resulting from fires. In addition, the area along the north side of the pile from E 7,500 to E 10,000 and from E 11,000 to the end of the pile contains numerous large overhangs and loose blocks of material. This area has almost vertical faces due to undercutting of the slopes by mining, and should be considered dangerous due to the physical hazards.